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EXAMINER

ALEXANDER, LYLE

ART UNIT PAPER NUMBER

1743

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,516

Applicant(s)

BOHM ET AL.

Examiner

Lyle A. Alexander

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 8/30/0 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22, 24-41, 48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22, 24-41 and 48-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-22 and 24-41 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims (1-28,58-150) and (1-45) of copending Application No. 10/028,852 and 10/057,354 respectively. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to a microfluidic device having a virtual wall.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-22 and 24-41 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 6,877,528. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to a microfluidic device having a virtual wall. This patent is silent to the claimed dimension of the interface port.

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The court decided In re Rose (105 USPQ 237) " ... the size of the article under consideration which is not ordinarily a matter of invention ." Additionally, it is desirable to make microfluidic devices as small a possible to minimize the volumes of reagents and samples. This minimization saves in the cost of the reagents and conserves the samples for further testing.

It would have been within the skill of the art to modify USP 6,877,528 and have channels and ports in the device meeting the claimed size of the channels and as the dimensions chosen for the channels would not ordinarily be a matter of invention.

Claim Rejections - 35 USC § 112

Claims 1-22 and 24-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 1 and 15 contain the limitation that the fluid interface port has "a depth equal to a thickness of the side wall and a diameter that is significantly larger than the depth and between about 25 um and about 100 um... ". It is confusing what is the intended diameter of the port. It appears the only concrete limitation is the port has be between 25-100 microns. For the purposes of examination it will be assumed the diameter of the port will be 25-100 microns.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-22, 24-41 and 48-49 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Chow (USP 6,494,230).

In light of the above 35 USC 112 second paragraph rejections, the claims are best understood as the port having a diameter of 25-100 microns .

See the appropriate paragraph of the 3/30/06 rejections.

Claims 1-22, 24-41 and 48-49 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Handique et al. (USP 6,130,098).

In light of the above 35 USC 112 second paragraph rejections, the claims are best understood as the port having a diameter of 25-100 microns .

See the appropriate paragraph of the 3/30/06 rejections.

Claims 1-22, 24-41 and 48-49 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fuchs (USP 5,757,482).

In light of the above 35 USC 112 second paragraph rejections, the claims are best understood as the port having a diameter of 25-100 microns .

See the appropriate paragraph of the 3/30/06 rejections.

Response to Arguments

Applicant's arguments filed 8/30/06 have been fully considered but they are not persuasive.

Applicant traverses the non-statutory obviousness-type double patenting rejection over USP 6,877,528 on the basis the patent contains addition elements, such as valves not claimed by the instant application. The Office notes the instant application does not exclude the additional elements of the patent. Applicant also states the patent

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does not "necessarily" create the virtual wall of the instant application. The Office maintains the rejection is proper because a virtual wall could be present.

Applicant's remarks concerning the 35 USC 112 second paragraph rejections state the instant claim language is clear. The Office maintains "a depth equal to a thickness of the sidewall and a diameter that is significantly larger than the depth and between about 25 um and about 100 um..." is confusing what is the intended diameter of the port. It appears the only concrete limitation is the port has be between 25-100 microns. Additionally, it is not clear where the depth is measured (e.g. inside of the port or down stream from the port) and if the depth is constant throughout. For the purposes of examination it will be assumed the diameter of the port will be 25-100 microns.

Applicant's state the cited prior art fails to teach the claimed relationship of the port diameter. In light of the above 35 USC 112 issues, the diameter has been read as 25-100 microns which is taught by the cited prior art.

Applicant's state the passage(310) taught by Chow comprises a channel having a depth significantly larger than the cross section of the port. The Office has consulted figure 1C of Chow. This figure shows the channel having a variable cross section and the channel network(122) having a cross section that is significantly less than the diameter of the port(130). In light of the 35 In light of the above 35 USC 112 second paragraph issues, it is not clear where the channel depth is being measured relative to the port. The Office maintains Chow has been properly read on the instant claims.

Applicant's state Handique teaches a channel having a depth significantly larger than the cross section of the port. In light of the above 35 USC 112 second paragraph issues, it is not clear where the channel depth is being measured relative to the port. Figure 1 teaches additional entry ports(A) that have a cross section diameter greater than the diameter of the channel. The Office maintains Handique has been properly read on the instant claims.

Applicant acknowledges the port(24) taught by Fuchs is larger than the depth of the channel. Applicant also states Fuchs cannot be read on the instant claims because the port(24) is larger than the claimed diameter of 25-100 microns. The Office does not understand how Applicant makes this conclusion. Further clarification is needed.

Applicant further traverses the rejections of record in the formation of the "virtual wall". The claimed "virtual wall" is not a structural feature of the apparatus or method but rather a result. The Office maintains the cited prior art teach indistinguishable apparatus and method of use and would inherently create the claimed "virtual wall".

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lyle A Alexander whose telephone number is 571-272-1254. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lyle A Alexander
Primary Examiner
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